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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,284

04/19/2007

Anwar Abumustafa

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EXAMINER

BAYOU, AMENE SETEGNE

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

04/10/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,284	Applicant(s) ABUMUSTAFA, ANWAR	
	Examiner AMENE S. BAYOU	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/22/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim recites "the piston includes a pressure relief pilot valve". The piston itself is part of the flow control valve and it is not shown in the description or the drawings how the piston itself can include a

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pressure relief pilot valve. The claim language can not be understood as is and thus precludes further consideration of the claim on its merits.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

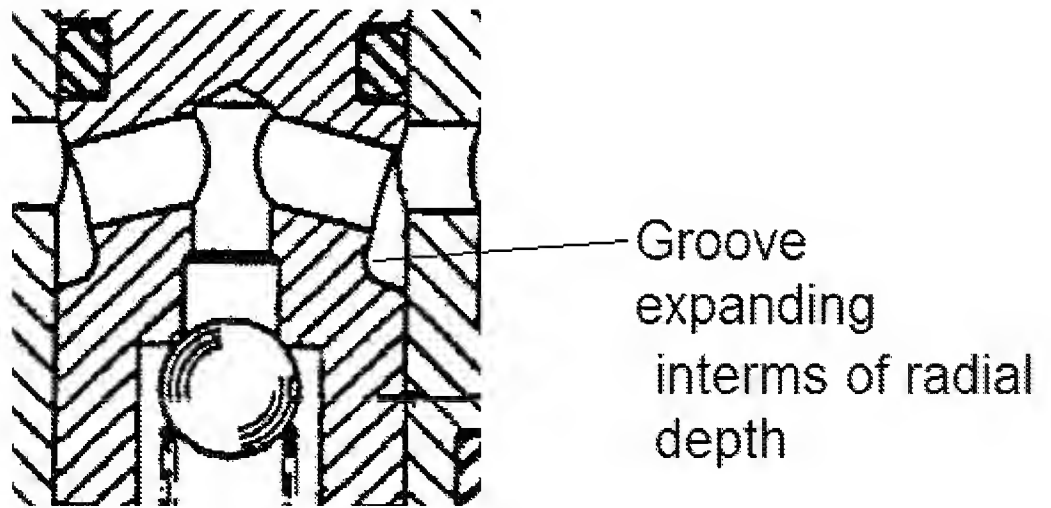
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-11 and 13 are rejected under 35 U.S.C 103(a) as being unpatentable over Applicant's admitted prior art of figure 1, in view of Yarnall et al. (US patent number 1783762) further in view of Bartussek et al. (US patent number 6244295) .

6. In re claim 7 Abumustafa disclose the claimed invention (***as an admitted prior art***) including:

- A pump ,in figure 1,comprising: a flow-control valve device including a piston (1) displaceably accommodated within a piston bore (3), the piston bore (3) having at least one inflow channel (7) and at least one outflow channel (13) , and the piston (1) having an axial inflow orifice (9) and a plurality of radial, lateral outflow orifices (11) and a circumferential outflow groove (21) disposed between a first collar (19) and a second collar (17), the second collar (17) forming a control edge (15) for an outflowing fluid flow, the axial inflow orifice (9) extending at least to a beginning of the radial, lateral outflow orifices (11) . The admitted prior art ,however fail to disclose the following limitation which is taught by Yarnall et al. :

- Axial inflow orifice (18) extending cylindrically to a beginning of radial outflow orifices (26), in figure 1. Abumustafa's admitted prior art in view of Yarnall et al. however fails to disclose the following limitation which is taught by Bartussek et al.
- Circumferential outflow groove (marked below for clarity). expanding in terms of a radial depth on an outer circumference of the piston towards the control edge, in figure 5 .



7. It would have been obvious to one skilled in the art to modify the prior art flow control valve as disclosed by the applicant by making the axial inflow orifice in cylindrical shape as disclosed by Yarnall et al. in order to prevent increase in flow velocity and thus pressure drop. Also it would have been obvious to one skilled in the art to modify the admitted prior art in view of Yarnall et al. by

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making the circumferential outflow groove to expand in terms of radial depth upto a control edge in order to have smooth flow transition between the discharge orifice and an outlet connection (the curved surface helps smooth flow).

8. In re claim 8 Abumustafa in view of Yarnall et al. further in view of Bartussek et al. as applied to claim 7 disclosed the claimed invention:

Bartussek et al disclose:

- The outflow groove expands in a conical form on a piston side and, as the result of a radially, inwardly directed arc, subsequently reaches a greatest depth in a region of the control edge (clearly shown in the marked drawing above).

9. In re claim 9 Abumustafa in view of Yarnall et al. further in view of Bartussek et al. as applied to claim 7 disclosed the claimed invention:

Yarnall et al. disclose:

- Cylindrical inflow orifice (18), in figure 1

Bartussek et al disclose:

- Diameters of the radial outflow orifices extend from the axial, cylindrical inflow orifice into the radially, inwardly directed arc in the control edge region (see figure above).

10. In re claim 10 Abumustafa in view of Yarnall et al. further in view of Bartussek et al. as applied to claim 7 disclosed the claimed invention:

Abumustafa disclose (as an admitted prior art):

- The piston (1) includes a third collar (18), in figure 1.

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11. In re claim 11 Abumustafa in view of Yarnall et al. further in view of Bartussek et al. as applied to claim 7 disclosed the claimed invention:

Abumustafa disclose (as an admitted prior art):

- The first and second collars have circumferential pressure-equalization grooves (20), in figure 1.

12. In re claim 13 Abumustafa in view of Yarnall et al. further in view of Bartussek et al. as applied to claim 7 disclosed the claimed invention:

Abumustafa disclose (as an admitted prior art):

- The pump is a power-steering pump (abstract).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number is 571-270-3214. The examiner can normally be reached on Monday-Thursday, 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

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<http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746